

# Less sedentary time reduces heart failure risk for older women

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Even with regular physical activity, older women (ages 50-79) who spend more waking hours in sedentary behaviors, such as sitting or lying down, have an increased risk of heart failure serious enough to require

hospitalization, according to new research published today in *Circulation: Heart Failure*.

"For [heart failure](#) prevention, we need to promote taking frequent breaks from prolonged sitting or lying down, in addition to trying to achieve guideline levels of physical activity, such as those recommended by the American Heart Association," said Michael J. LaMonte, Ph.D., M.P.H., lead author of the study and research associate professor of epidemiology in the School of Public Health and Health Professions at the University at Buffalo in Buffalo, New York. "Very few studies have been published on [sedentary time](#) and heart failure risk, and even fewer have focused on older women in whom both sedentary behavior and heart failure are quite common."

To determine if increased sedentary time raised the risk of increased heart failure in [older women](#), researchers examined the records of almost 81,000 postmenopausal women (average age of 63 years) from the Women's Health Initiative (Women's Health Initiative Observational Study). Women participating self-reported the amount of time spent daily, while awake, either sitting, lying down or being physically active.

Researchers divided participants by the total daily sedentary time (sitting and lying down combined): 6.5 hours or less; 6.6-9.5 hours; and more than 9.5 hours. Total number of daily hours spent sitting for each participant was also itemized: 4.5 hours or less; 4.6-8.5 hours; and more than 8.5 hours. None of the participants had been diagnosed with heart failure when the study began, and all were able to walk the distance of at least one block without any assistance.

During an average of 9 years of follow-up, 1,402 women were hospitalized due to heart failure. Compared with women who reported spending less than 6.5 hours per day sitting or lying down, the risk of heart failure hospitalization was:

- 15% higher in women reporting 6.6-9.5 hours daily spent sitting or lying down; and
- 42% higher in women reporting more than 9.5 hours daily spent sitting or lying down.

Compared with women who reported sitting less than 4.5 hours a day, the risk of heart failure hospitalization was:

- 14% higher in women who sat between 4.6 and 8.5 hours each day; and
- 54% higher in women who sat more than 8.5 hours a day.

"These findings are consistent with other studies confirming that people with more daily sedentary time are more likely to develop chronic health conditions such as diabetes, high blood pressure, heart attack, stroke and premature death from [heart disease](#) and other causes," LaMonte said.

The association between sedentary time and heart failure hospitalization risk remained after accounting for known heart failure risk factors such as [high blood pressure](#), diabetes, obesity and previous heart attack. An important finding in this study was that the association between more sedentary time and a higher risk of heart failure hospitalization was found even in the subgroup of [women](#) who were the most physically active and meeting recommended activity levels.

"Our message is simple: sit less and move more. Historically, we have emphasized promoting a physically [active lifestyle](#) for heart health—and we should continue to do so! However, our study clearly shows that we also need to increase efforts to reduce daily sedentary time and encourage adults to frequently interrupt their sedentary time. This does not necessarily require an extended bout of physical activity; it might simply be standing up for 5 minutes or standing and moving one's feet in place. We do not have sufficient evidence on the best approach to

recommend for interrupting sedentary time. However, accumulating data suggest that habitual activities such as steps taken during household and other activities of daily living are an important aspect of cardiovascular disease prevention and healthy aging," said LaMonte.

Although the analysis only included [postmenopausal women](#), the findings are similar to those reported in a multiethnic study of men in California and are likely to be generalizable to men. Because the study was observational, it cannot establish a cause-and-effect relationship between sedentary time and heart failure risk. The study was limited by assessing hours of sedentary time via questionnaire rather than a wearable device to track movement. Researchers do note that they were able to find a significantly elevated risk of [heart](#) failure even after statistically controlling for confounding factors, which raises their confidence in the accuracy of the direction and magnitude of association measured.

**More information:** *Circulation: Heart Failure*, [DOI: 10.1161/CIRCHEARTFAILURE.120.007508](#)

Provided by American Heart Association

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